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Chair

Mr. James Maloney

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● (0850)

[*English*]

The Chair (Mr. James Maloney (Etobicoke—[illegible]more, Lib.)): Good morning, everybody. Thank you for joining us this morning.

We are joined today, for a second time, by Quality Urban Energy Systems of Tomorrow. Mr. Cameron and Ms. Leach, thank you for coming back. You were here previously and your attendance was disrupted. We're grateful you were able to make it back.

My recollection is that you did make some opening remarks the last time. It was some time ago, so I don't know if you want to go through your presentation in its entirety again or if you want to give us a synopsis. I'll leave that entirely up to you. Then we can get to questions.

The floor is yours.

Ms. Tonja Leach (Managing Director, Operations and Services, Quality Urban Energy Systems of Tomorrow): Mr. Chair, good morning and thank you for inviting us back to testify. I will provide you with a quick overview of QUEST and then pass it over to my colleague, Bruce Cameron. He's a senior associate with QUEST. He'll provide you with the details of the findings of our Atlantic energy data road map research.

QUEST is the voice of the smart energy communities marketplace in Canada. We are an influencer, connector, and educator. We support all three levels of government, utilities and energy service providers, the real estate sector, and solution providers to grow the smart energy communities marketplace. Smart energy communities put in place the conditions that reduce greenhouse gas emissions, lower energy use, drive the adoption of clean technologies, enhance resilience, and foster local economic development and job creation in Canada.

I'll now pass it over to Bruce.

Mr. Bruce Cameron (Senior Advisor and Consultant, Quality Urban Energy Systems of Tomorrow): Thanks very much, Tonja.

Thank you, members of the committee, for the invitation to return. I think we're going to end up having more time to talk about it than we would have otherwise, so I'm quite happy to come back and speak again.

I'm just going to try to recap, rather than repeat, where we were when we started off last time, about a month ago. As general propositions, Canada is not bad at documenting what we do in the way of energy production and supply, although we're not as good about renewables as we are about traditional petroleum resources.

We're talking, though, about energy use today as being one of the major topics of energy information and energy data, and we're not nearly as good at that. There are a whole lot of reasons, one of which is that, quite frankly, energy use takes place in provinces, and the Government of Canada doesn't have as much of an overarching jurisdictional responsibility for energy use except when it fits within various policy nexus, but from an information bottom-up perspective, there's not as much of an overarching jurisdictional use there.

The provinces have been trying to fill in as best they can, and because of its fragmented nature, energy data doesn't talk to each other, particularly about use. We're actually quite good in some ways. There's a Petrinex network in western Canada where now B.C., Alberta, and Saskatchewan are all filling in collectively to one place about what happens in the way of energy production, and there have been efficiencies and things that have happened that way that are really good and driven by provincial interests. In some senses, we need more of that happening in the rest of the country on a broader agenda.

So, energy for the future, energy data for the future, it's a lot more rich. It has a lot more other things attached to it, a lot more information. It's not just about a data point. It really is all the other information you can connect to that data point, and it's linked to a whole bunch of other positive things that start giving you knowledge and real information instead of just some scattered facts.

The new drivers of energy information are all about climate change, efficiency programs, community-level accounting, and things like that, a different agenda from calculating royalties and making sure that the public interest is protected in the production of energy.

We took all these things into account when we started working with the provinces in Atlantic Canada to ask what is a road map to get to this new energy future that will start addressing the new agenda and build on existing needs for the old one. We secured a lot of advice, talked to a lot of people, and worked out a vision that really talks about an energy system, and talks about some principles that I think are really important, one of which is that society needs to make informed choices.

We need to have real solid evidence to make decisions on almost everything, whether investments, programs, or policies, and the personal information has to be protected. That's where it starts today. Almost everything that you see in the media these days that has to do with data has to do with breaches of data and privacy, and that needs to be a fundamental first principle in everything we do. If we're going to be collecting this data, it has to be protected, and consumers need to have the right to decide when they're going to disclose the information and how, within a framework of law. There are technology solutions that provide ways we can do this in a much more standard way. Governments need to work together.

All of those are principles we embedded in the road map that should be released in a couple of weeks time.

When we talk about access to data, it really is either legislative requirements that are very sensitive and protected.... Stats Canada has a very good reputation for protecting people's information. It's been at it for a long time, and has a lot of protocols in place, a lot of security and sensitivity wrapped around it. The next system, the evolution of the system has to have equal kinds of safeguards and assurance and trust of the public. If we can manage that, then we have all sorts of very rich opportunities in the private sector, in efficiency agencies, and in co-operation.

● (0855)

I just want to close on an observation on the federal role. After all, you are a parliamentary committee, and you're looking at it from a Canadian perspective. The first thing is that there are a number of really strong players in the energy information data world today at the federal level. Stats Canada is obvious, but I think you've also heard from others. For example, Environment Canada has a major role in collecting energy information in order to get to their greenhouse gas calculations and inventory. There's a nexus there between the two where that needs to perhaps be examined.

There's a collaborative history between the provinces and the Government of Canada through the federal, provincial, and territorial energy ministers meetings and processes, and there is an opportunity for leadership. I think there is always a national role in these things.

I'm always mindful of whose jurisdiction it is. Having worked in the Province of Nova Scotia for 20 years, I'm very sensitive to the issue of "that's my job and that's your job", but together we can work in the way of a national job, and I think that's an important opportunity here, to collaboratively work on getting good quality energy data for good quality energy information decisions.

Thank you.

The Chair: Thank you both very much.

Ms. Ng, you're going to start us off.

Ms. Mary Ng (Markham—Thornhill, Lib.): Thank you so very much for returning. It's great to hear your perspective.

We've heard a lot from many of the witnesses who have appeared before us, some of which you have touched on, which is that there's a good collection, for example, of data on the production side, whether it's tracked through industry, through the provinces, through the NEB, and so forth. We have also been hearing that there is also data collection, as you just said, on the environmental side to help us sort of meet targets.

The one piece that I would love to hear from you about is the state of end-user data and how something like smart grids can contribute to the collection of that end-user data so that there is some sense that can be made of it. Maybe you could speak to that and share your perspective, please.

Mr. Bruce Cameron: You can't have a smart grid without energy information, and one of the outputs of a smart grid is energy information. It has to collect data in order to inform, even if it's an automatic decision. If we don't enable that data to be collected and used in a positive way, we've probably failed, and sometimes there are legislative impediments to the information to be used in the best way possible, and that's where governments need to examine whether they need to take action. If something is failing to happen because there's a legislative impediment, then it's your job, or it's the job of your colleagues in the provinces and territories.

Where we're seeing that today is, there are a number of jurisdictions across the country that have advanced meter infrastructure. They're collecting data, and they've all been very sensitive to this issue of privacy. Who gets to see the data? Sometimes they put in what I would call an iron fence, a moat and guns everywhere on the parapets, to make sure that nobody ever gets to see any of that information. It satisfies the public who are concerned that the data may be leaked, but if the only use that it has really is to bill you, then it isn't really living up to the opportunity. There's a way instead, I think, within that moat and that ring fence to be able to do analytical work. It takes that data, combines it with other datasets, and gets real value and meaning. In fact, Stats Canada is doing that today in other ways, but they're not getting that granular level of information.

Many of the ways we've been dealing with data can be extended to the new data and have the same standards of care and the same standards of protection of the private interest and still meet the public objectives, which are huge.

If I could just deviate for one second, Mr. Chair, I was just reviewing yesterday an article that had been in *The Globe and Mail* dealing with ecobee. Thirty thousand people across North America have given permission through ecobee for researchers to share their energy information on how they use energy within their homes. These kinds of things are very exciting and very positive. If we can help technology enable that kind of voluntarily giving up, as well as the general public interest work, we'll have a much better understanding of how to really manage energy systems for our own use and for everyone else.

● (0900)

Ms. Mary Ng: You're getting into the area of my next question.

We've heard loud and clear that there's a need for a national data strategy that enables public policy-makers to understand not only production but use, and the way in which the production is affecting climate change. We understand that. Would you say that equally important is the public understanding and knowledge, through this data and information, that then also helps drive changes in public behaviour?

Mr. Bruce Cameron: There's no question that information can be the foundation to start having a conversation about changing behaviour. It's a basis of knowing what's happening in your home, how much natural gas you're using, and how much electricity you're using. You might be using propane for some reason as well. Certainly, in many parts of the country you'd be using biomass; you'd be using wood. You can now see that if you did this, it would make a change, both in terms of your carbon footprint and in terms of your wallet or purse. Unless you have the information as to how all this comes together, you can't have the conversation about what's in it for you.

You also need all that information to actually do the social behaviour change, which is about a community perspective. All of your neighbours, getting together, have decided that they're going to try to work on some things to save and say, "Look what we've achieved." If you don't have the information, you can't celebrate.

Ms. Mary Ng: We are looking to study how we might recommend a national data strategy for the country. Do you have a perspective on an independent agency that might do that in the country?

Mr. Bruce Cameron: When I look at the strengths of this country, I look at a whole bunch of things happening in a fragmented way. I think there needs to be some kind of group of people with clear accountability, a framework, and a requirement to do some things.

I spent a lot of time in government. The last thing I wanted anybody to ever tell me was precisely how to design something. Tell me the outcomes, and then I'll go away and figure out what works best.

I wouldn't say that it has to be an independent agency. What I would say is there needs to be a critical mass of people working somewhere inside Canada, knitting all of this together, and being the place where you can have some really good energy information discussions, guidance, advice, and ultimately even some work done. Whether it's an independent agency or not, I really don't care.

Ms. Mary Ng: Where are our top three impediments now?

Mr. Bruce Cameron: The impediments now are, first off, that we're not collecting data in such a way that it can be used for multiple purposes. They're all fit for one purpose. Environment Canada collects a lot of its data from facilities for the purpose of measuring GHG emissions. It also grabs a whole bunch of other data elsewhere to go into its modelling about the balance of energy, but it seems to me that more effort needs to be made for people to agree that if you're going to collect information, you collect it in a way that it can be used for multiple purposes. That's number one.

We're really good at collecting a lot of stuff—

● (0905)

The Chair: I'm going to have to ask you to wrap up. I'm sorry. You're out of time.

Mr. Bruce Cameron: That would be a very good start.

The Chair: You can incorporate numbers two and three into future answers.

Mr. Falk might give you the opportunity.

Mr. Ted Falk (Provencher, CPC): Thank you, Mr. Chair.

Thank you to our witnesses for coming back to committee.

For whatever amount of responsibility we need to bear for creating this opportunity for you, you're welcome. I think it has worked out very well for you to have greater input at this committee than you would have had in the past.

Voices: Oh, oh!

Mr. Bruce Cameron: Hear, hear!

Mr. Ted Falk: That's a good spin, eh? I'm learning to be a politician.

The Chair: I thought it was a masterful plan.

Mr. Ted Falk: Thank you very much.

Thank you for your interesting presentation. You spoke about the need and requirement to protect individual privacy. In thinking of biomass users, wind users, and solar users, how would you envision that data usage being collected? In one of your comments, which I think is in your presentation or information package here, you said we're not bad or quite good at tracking and recording data for production but not so much for usage. How would you suggest collecting the data for wind and solar energy?

Mr. Bruce Cameron: If you're going to look at the production of those things, there is a fair amount of reporting on individual wind farms to utilities, and then getting it from the utilities back out isn't too bad.

Biomass use at a utility scale, again, it's not bad. How you get at the use of biomass for heating a home in rural Canada is a tremendous challenge partly because of the supply, the input into it. The people in the woods who are collecting the logs to give it are not required to report today, and often come down at a level of very small supply. It's very difficult to understand exactly why you would put people through that degree of red tape for very small....

Big suppliers and big deliverers of natural gas can easily be monitored, and they can take the burden.

Mr. Ted Falk: You also talked about different jurisdictions, some provincial and some federal. I would even suggest that some of it is municipal jurisdiction insofar as collection of data is concerned.

You also mentioned that you thought Statistics Canada has been doing a tremendous job in protecting people's privacy and providing relevant data on the information they collect. How do you think Statistics Canada could assist us with the assimilation of more national energy data and combining different industry data?

Mr. Bruce Cameron: The general concern about Statistics Canada is being able to get data in a timely fashion. When you look at some of their publications on energy use, for example, the data is two and three years out of date. It is very difficult, when you have that kind of a lag, to understand exactly what's going on in a rapidly changing marketplace. Some marketplaces aren't that rapidly changing, but often prices are. That's affecting use as well.

The first thing would be to step up the collection of the data and the ability to analyze it more rapidly and create energy information.

This goes back to what you need improved in the energy information system. You need a group of people who combine the engineering, technical, economic, social, and policy priorities in a sense, and really good communication skills, quite frankly. If you have everything on a spreadsheet, you could say the information is available. I believe you have the data available, but you don't really have information that can be used by people. You need all these skill sets coming together to direct projects, priorities, and to say If we're going to spend public money, here are the things we need to do. That needs to be built into the system, in addition to all the technical work that's going on today.

● (0910)

Mr. Ted Falk: Do you think there's an issue of standardization in the collection of data?

Mr. Bruce Cameron: Absolutely.

Mr. Ted Falk: I'll give you one example.

I come from a business background, and in my industry I deal with the gravel and aggregate business. We may have to report in yards or in metres, metric tons, standard tons, all these different things, depending on which jurisdiction is asking for the information. The frequency of the information is scattered as well. There's very little consistency.

Do you think there should be a role, maybe through Stats Canada, where one central agency collects the information? I think this could help business tremendously. They would gather standardized information and disseminate it as people need it.

Mr. Bruce Cameron: I used the example of Petrinex in western Canada as a place that has standardized all these things. I'm with you entirely on the idea of standardization.

In a lot of energy use data, there is an evolving standard called a "green button". It has a funny name, but it is no different from an ISO-724 or whatever kind of standard. It specifies how you report the information. It has built-in understandings that "this column means this". Presumably if you report in yards, a factor will convert it to two decimal places, or whatever, to cubic metres.

The technology is there, the ability to have standards. It's the willingness to undertake a project like this. I will choose my words carefully. This is not the highest profile kind of...if you're going to a minister and saying that this is an exciting concept and I need $3 million to standardize the reporting of energy data across the country. Put this as the priority of things you'll be able to take home to your constituents.

Mr. Ted Falk: Wouldn't that be money well spent?

Mr. Bruce Cameron: Of course it would be well spent.

Mr. Ted Falk: The return just in productivity and efficiency in the business community would be enormous.

Mr. Bruce Cameron: Absolutely. I think you take the point that it really takes a lot of people to put a lot of attention, effort, and profile into a subject that is not going to get high-profile headlines. But it is the right thing to do.

The Chair: Thanks, Mr. Cameron.

Mr. Cannings.

Mr. Richard Cannings (South Okanagan—West Kootenay, NDP): Thank you both for coming back here. This is very informative for our study.

I want to start off with the personal information and the granular data that deals with that. You point out that personal information should be protected. I think we would all agree. Then your presentation goes on to say that consumers should have the right to decide if they want to share their personal energy data. I'm wondering if you could comment on that. If you rely on people to give permission, and some people do and some don't, it introduces a huge bias in things. We saw that with the long-form census. In my previous life, I dealt almost entirely with voluntarily gathered data, and we had to tie ourselves in knots to get rid of the bias as best we could in that data.

I'm wondering if there's a way to have that granular data, where the personal information is stripped off—the exact address, names, whatever—but you still know what kind of house they live in, the general neighbourhood they live in, those sorts of things that deal with the personal information, the privacy issues, but at the same time get rid of this bias. You mentioned ecobee, with 30,000 people, but all those people have said yes to that. They're all people who want to get involved with it. So if you think they're normal people, you're very wrong.

Mr. Bruce Cameron: Here's the thing. I have a Nest. If I had ecobee, I would be out there saying, "Here, have my information."

There are a couple of things here, and you've touched on something that is very important. There is the data, and the data is just about energy consumption. What you really need to do is pair the data with an address—that energy consumption happened at that place. Then you need to add in the data of what that place looks like, for example, the property assessment information about it being a 2,500 square foot dwelling that was built in the 1940s. If you then begin to ask how that pattern changes over time and everything.... You have to be dealing with private information to start making sense out of it, so you need a safe place to do that work where you're still dealing with private information.

An individual user of energy may not give consent. What you need is that framework that says if you're going to play around with personal information, you do it in a safe place. Stats Canada is a safe place. The utilities are safe places. Quite simply, they have the data anyway, because they have to create bills. You create that safe place, and then you tell people that the data will be protected, and that the people who will be looking at that data will have the highest level of secrecy and be held to the highest standards. Once you have all this information, you don't need to report it out as an individual. You can report it out as a neighbourhood, or as a town or a village. You can then start saying that all of the houses in this community that were built in the 1940s are using a certain energy profile. That is why it's really important to have the big picture and the data in that safe place, so it can be analyzed.

The value of the independent, volunteered data is that you can probably start teasing out of people how many people are in the home, how many of them are teenagers. That makes a difference. You then begin to move into a whole lot deeper analysis that, quite frankly, might be a little creepy—having people doing a lot of that stuff without volunteered consent. But as soon as you can start getting that, you can start getting energy patterns. They may not be absolutely normal, but if you're getting people who have different family types, you can begin to make some sense out of that.

There is a lot of work and useful things that can be done from both approaches.

● (0915)

Mr. Richard Cannings: I appreciate that we need a safe place in which to do all that. I just think we need to get around who's actually reporting. I'm not a statistician myself, but I know it's helpful if we have data that's not biased to start with.

Like pretty much everybody who has come here, you talked about how fragmented the data is, and how it doesn't talk with each other very well. I'm wondering what course you would recommend the government take to get past that problem. Do we need another pan-Canadian framework on energy data, where the provinces just all sit down in a room and indicate the kind of data they want, and everybody signs on to an agreement? How difficult or simple would it be?

Mr. Bruce Cameron: I would say that in theory, it's absolutely the right thing to do. In theory, it would be a really good foundational accountability kind of thing. In practice, it's going to be a real challenge, partly for the reasons I alluded to earlier. It's hard to get political capital and attention on these kinds of fairly boring things. If there was some federal leadership—a national approach, a reaching out to the provinces to come on board and collaborate and sign up—that kind of a co-operative, collaborative approach may very well have more legs over time. As more people see the benefits of it, instead of a risk attention capital and everything else, they see the clear investment and return, and that they should be on board.

It's more something that you try and set up, and start providing leadership on the standardization. You then provide a framework for more and more people to sign on, because it's a much more efficient way of doing it. I gather it was for the same reason that British Columbia joined Alberta and Saskatchewan in reporting; there's a very clear business case. We need that kind of a start to demonstrate that this works and has value. More and more people will then sign on. There are a number of provinces that are really quite keen to do it, because they're running into gaps today. That could be a start.

● (0920)

Mr. Richard Cannings: Thanks, that's it.

The Chair: Mr. Serré.

[*Translation*]

Mr. Marc Serré (Nickel Belt, Lib.): Thank you, Mr. Chair.

I will ask my questions in French.

Thank you for coming to meet with us. Your testimony is very important to our study.

In Canada, we are very proud of our energy system. Our country is a global leader and one of the best producers. In addition, we consume a lot of energy. As Canadians, we should really be proud of this system.

The committee is looking into the potential creation of a national centre. You said that this may not be necessary. You talked about independence. On the other hand, some witnesses have told us that it should have been done many years ago—30 or 50 years.

We are talking about a centre, and I think the government can probably choose one of the following three options. First, it could dedicate significant funds to the creation of a national centre, like the United States did. That country invested US$127 million, or about CA$150 million. So the government could invest in a centre.

Second, we could maintain the status quo. That is what all the other governments have done over the past 50 years. Neither the Conservatives nor the Liberals have created a national centre.

Third, we could invest a bit of money in some departments.

Do you think that, if the federal government invested funds in data collection, the private sector would benefit? Would the private sector save money that way?

[*English*]

Mr. Bruce Cameron: I think it is possible, through the standardization, to reduce the cost on business. We've discussed a number of kinds of intuitive senses; if I'm reporting one way to one place at one time, then that will be a whole lot better than telling five people almost the same thing in a slightly different way. Yes, it may make some sense to boost the capacity and capability of a number of places across the country in the federal system and in the provincial and territorial systems to enhance the ability to collect information and to perhaps make some sense out of it. But at a certain point, what you need is leadership. On this subject matter, which isn't normally high profile or really important or at the top of everybody's agenda, somebody needs, or some bodies need, to be inside the system supporting everybody else but also thinking ahead, thinking about the things that need to be done and the priorities.

[*Translation*]

Mr. Marc Serré: There are deficits, and we are looking at the overall situation. If there is no money to create that kind of a centre, where should we invest to have the best data collection? Should we invest in Natural Resources Canada, Statistics Canada or both?

[*English*]

Mr. Bruce Cameron: I would say that if you don't have a lot of money, you'd do a couple of things. One, you would begin to get more timely information from Statistics Canada, and so you would invest there. I think there should be investment somewhere in a central place. Whether it's Stats Canada or NRCan, I do not know. That's a decision for the Government of Canada. There needs to be some investment in a leadership role where they know a lot about energy and they're connected back to energy departments across the country. Stats Canada is connected back, first off, with finance departments, who are statistics agencies across the country.

You'd need to rewire some things there as well.

● (0925)

[*Translation*]

Mr. Marc Serré: You said that renewable energy data was lacking. Do you have any recommendations on what the government could do today to collect and analyze data on renewable energy and biomass?

[*English*]

Mr. Bruce Cameron: You're actually touching on a subject that I am trying to learn a little bit about, as well. Let me give a small example in Nova Scotia.

Normally, on small solar installations, photovoltaics installations, it reports back on the net. It's reported back that my installation sold 100 kilowatts of electricity into the grid more than it used from the grid, so it's a net. To actually understand what's happening on that, you'd really like to know, back and forth in any given hour, whether it is producing for the home or producing for the network. You'd want some recording of that, so you could then analyze this dynamic and understand more about when that little solar installation is actually contributing or drawing, so you can design a better system.

In Nova Scotia we didn't have any way of getting to that, except in 2015 when we revised our Electricity Act and just said that people are going to get a benefit from the system by doing net metering; what they will have to contribute for getting that benefit is that they will have to install a meter that will tell exactly what's going on, back and forth, and it will be reported back. We had to write that into law, had to actually say that was it.

Nobody minded. All the people who were doing solar PV were the committed people who probably would share all of their data with anybody all the time. What Nova Scotia now has is this requirement to collect all this information up to now, so that five years later, by 2020, it's able to start making some really subtle decisions about the future design and what is going to be the impact if it goes from hundreds to thousands, to tens of thousands.

One other thing that needs to be looked at is whether we are collecting the information we want to make those decisions, and whether there is technology that we can require that will not put a real big burden on anybody, but just report out. That was the case of what we did there, and I know there are technologies and ways of doing it. But you need some people who are thinking about that, too, because that's in the policy area. That's not in the Stats Canada collection.

The Chair: Thanks, Mr. Cameron.

Jamie, you have five minutes.

Mr. Jamie Schmale (Haliburton—Kawartha Lakes—Brock, CPC): Thank you, Chair.

I appreciate the witnesses coming back, and I appreciate their testimony.

To elaborate on what you were talking about—renewable energy, the quality of the data, the consistency, and that type of thing—and you named a few examples already, are there any other gaps that you are aware of or that you can see coming that we should be preparing for?

Mr. Bruce Cameron: In a lot of ways, again, it comes back to the data, which is there. The biomass—out in the woods, somebody cutting their own wood and making their own energy for their home—is going to be a very difficult one because they don't fully understand what the cost, the volume, or anything else was. People are looking at that today.

With regard to wind, what I think a lot of people want to understand more about wind is the cost. They want to understand where it's going, and not where it was.

Where we've embedded wind in the country, over the last five to 10 years, it has been at a much higher cost than if we were to do it again today. We can only do that because we've learned and we have a much bigger base and a supply chain, and we have all this knowledge.

I think it's important to have the capacity to understand what happens now and what happens in another 10 years and 15 years. When all of those ones that were more expensive to start off with come off contract, what's the possibility? That's analytical, so it's not so much about the number gigawatt hours of wind. I think people want to know much more about what the cost is and what can we look to for the future. That's analytical.

When it comes to solar PV, understanding a whole lot more.... I don't know of any province other than Nova Scotia that collects that granular level of data on solar PV. Everyone else is sitting there, saying, "I don't know; it comes on; it's in the system," and we draw analogies to what's happening in southern California or Arizona, but wait a second, they're not exactly like us at all. If we're to get to real energy information decisions and impacts, we need to collect Canadian data that is relevant to Canadian energy needs. That's also about investing in projects, and not just surveys, but also technologies and pilots and things to be able to collect.

● (0930)

Mr. Jamie Schmale: I asked a witness this question previously; it might have been you. If it was you, I apologize.

This data is so important. It has so many aspects to it and can be used in so many different ways. Is there also potentially an option for the private sector to start collecting and gathering the data, and allowing others—whether it's a membership or whatever—to buy into it and get the information that way, rather than having a new government agency or an expanded government agency?

Mr. Bruce Cameron: I hope whoever you asked that question gave you an interesting answer.

Mr. Jamie Schmale: So it wasn't you.

Mr. Bruce Cameron: It wasn't me.

Number one, the private sector is collecting a whole lot of energy information today. We gave the example of ecobee and the 30,000 volunteers. Nest thermostat, in parts of the United States, is actually collecting that information and offering it back to the utilities. They will give rush hour rates back to the consumer, if you let them control your heating and cooling load a couple of times a year. Once you've signed on for that, they sell it back to the utilities to shave their peak. They become an intermediary between the utility and the utility's customers, to offer a new service.

I would say, generally, that because of technology and so on, the private sector is going to be looking for all sorts of opportunities to monetize and take advantage of energy data as their products become more pervasive inside the homes.

It's not a matter of making a decision. The private sector is already active in doing that.

Mr. Jamie Schmale: It's not just energy data.

Mr. Bruce Cameron: Of course not.

Mr. Jamie Schmale: They're looking for all types of data.

Mr. Bruce Cameron: Part of it is, what is the model for the private sector to actually go in and act as an efficiency agency inside a home? They would much rather go into institutions and large residentials. They would like to go to CAPREIT and cut a deal for tens of thousands of apartments, rather than coming to my home and spending the time.

There are public agencies creating and operating in this country now for efficiency purposes, where a lot of the collection of that data and technology and so on can be done on a quid pro quo basis. I'm collecting your data; I'm also giving you a service. If you say the private sector, in a broader way that also encompasses some of these not-for-profit agencies.... They'll collect the data. As long as they collect it in a uniform, standardized way, it should be just push a button and that's shared back up with the energy information agency at no great burden at all.

● (0935)

The Chair: I have to stop you there because we're over time already.

Mr. Tan, you have five minutes.

Mr. Geng Tan (Don Valley North, Lib.): Thank you, Chair.

Thank you, witnesses, for sharing with us your thoughts on energy data.

I'm very simple minded. The impression I have from your statement and your answers to the questions is that we do have good energy data somewhere. We also have strong players in the collection of energy data, but the issue right now is that the general public does not have good access to the data because of privacy issues, or they have access but most of the data, as you said, is for single-use purposes, not for multiple purposes. The quality of data is not good enough to meet the requirements of the general public. Is that what what you said?

Mr. Bruce Cameron: Let me put a few more nuances on that.

If I sit in Halifax, there are a whole lot of people who would be heating with home heating oil and who might have supplementary wood. I'd certainly have an electricity bill, and I might have a bit of propane. The oil company that delivered it understands exactly how much energy I use, but do they report it back to me in a form that I can use very well? The answer is absolutely not. It's almost impossible to read the darn bill to understand why I'm being called upon to pay $500, never mind how this compared to last year, or whether it was because it was a cold winter. Why did it go up? They don't provide that information. They're not in that business, and they don't do it. I have no clue how many cords of wood I used this year because I bought a bunch last year. As for the propane, again, it's just like the oil. I understand a little about my electricity bill because it does provide me with a comparison of what I used last year, but again, it doesn't true it up and tell me whether that was a particularly cold year, or prompt me to remember that I put a second fridge in my basement.

Yes, there is data there, but to let me make a meaningful decision about the things I want to know, a whole lot of players have to act differently and provide more information than they do today. They're not going to do it voluntarily in many cases. Somebody needs to figure out how to get them into a position of giving me information that I can use and understand, and requiring it to happen over a long enough period of time so that they're updating their IT systems instead of having to invest a whole lot of money.

Mr. Geng Tan: Thank you. That's a very good example. Who's that somebody? What's the best approach to address this kind of issue? Just give a very simple idea.

Mr. Bruce Cameron: I think the data from all those suppliers should go to a public body.

Mr. Geng Tan: Centralize it.

Mr. Bruce Cameron: You could have 14 public bodies across the country. If they're all wired and connected, and they're using information and the same standard, then they can share amongst themselves very easily. You don't necessarily have to have every electron movement reported directly to Stats Canada.

Mr. Geng Tan: The problem here is that no matter how many systems you want to build, and how centralized the system is, you still have to rely on the data provided by each consumer. You said it: you didn't know how much energy was used for the fridge and the stove. It's very much dependent on the willingness of each consumer to submit that data. Usually they don't give you enough data. No matter how strong the system is, the source of data is still not good enough, so you still have the same problem.

Mr. Bruce Cameron: One thing the Atlantic Canada energy data road map looks at is where technology is going. What are the opportunities to have this reported by the energy provider in a fairly simple, straightforward way if you evolve it over a decade? Instead of putting the burden on the consumer to report....

● (0940)

Mr. Geng Tan: You're suggesting that they use better technology to improve the quality of data instead of making the data collection or data reporting more mandatory.

Mr. Bruce Cameron: Today you have the technology, through advanced metering infrastructure for electricity and gas, to report in a much more detailed, granular form. If you do it in a standardized way, you could meld that information quite easily. You'd need to fill a few gaps on things like oil. If you plug that in, in the same standard, and you do it over time, you'll then get your energy picture from the bottom up instead of the top down.

The Chair: We're going to have to stop it there.

Thank you both very much, for coming back and providing us with a great deal of valuable information.

We will suspend now for a few minutes, and then let's try to start sharp at 9:45.

● (0940)

(Pause)

● (0945)

The Chair: We're going to resume.

We have two witnesses joining us this hour. From the David Suzuki Foundation, we have Patricia Lightburn. From Quebec Native Women Inc., we have Myriam Landry. Thank you both for joining us.

We're going to jump right into it. Each of you will be given up to 10 minutes for a presentation. You can deliver your remarks in French and/or English and anticipate questions after that in French and English.

Ms. Lightburn, why don't we start with you.

Ms. Patricia Lightburn (Manager, Science and Policy, David Suzuki Foundation): Thank you for the opportunity to speak to you today about the current and future state of national energy data in Canada.

My name is Patricia Lightburn. I am the manager of science and policy at the David Suzuki Foundation. I have a background in energy policy, including at one of Canada's largest pure play renewable energy companies, the provincial government of British Columbia, the International Energy Agency, and the former Ontario Power Authority.

Founded in 1990, the David Suzuki Foundation is a national, bilingual, non-profit organization headquartered in Vancouver, with offices in Toronto and Montreal. Through evidence-based research, education, and policy analysis, we work to conserve and protect the natural environment and help to create a sustainable Canada. One of DSF's greatest priorities is to advance climate solutions that accelerate the transition to a low-carbon Canada and help meet Canada's Paris Agreement commitments.

From the world's leading scientists to business leaders from the World Economic Forum, experts have identified climate change as the greatest economic and environmental threat facing us today. Energy knowledge and data are critical for Canada to succeed in the 21st century economy and to be a responsible global actor on climate change.

Canada has an opportunity to position itself at the forefront of clean energy innovation and to be a developer and exporter of climate solutions by leveraging our vast renewable resources to power our homes, transportation systems, and industry. Decarbonization of our electricity sector and economy is the clear path to meeting our Paris commitments, and yet without robust energy data, we are challenged to find consensus on a model to reach our 90% non-emitting electricity generation target, let alone 100%.

Data will allow us to model where renewables can be efficiently added to the grid, the role of demand side management and smart grids in optimizing our electricity system, and where additional storage or transmission solutions are required to allow the highest levels of renewables integration. This type of analysis will not only facilitate the transition to a clean energy future but also help to maintain the reliability and affordability of electricity in Canada.

Our cities, energy, and transportation systems are in need of modernization and expansion to meet the demands of growing populations and to replace aging infrastructure. Transmission and distribution networks, energy storage, and smart grids are essential components of our future energy system. As Canada embarks on one of the largest infrastructure investments in its history, energy data will be critical to guide spending and ensure that this historic investment is aligned with our climate commitments.

Energy data should underpin many of the policies that are critical to achieving our climate goals, such as carbon pricing, electricity regulations, and the clean fuel standard. Energy data allows for stronger policy development and analysis, and more robust monitoring for effectiveness. Electricity generation and operation data guides the electricity market reform policies that will allow the integration of significant levels of renewables.

Currently, energy data is scarce and rarely recent or available in real time. Data collected for energy modelling by universities, governments, energy regulators, industry associations, think tanks, and other non-governmental organizations is typically pulled together with difficulty from several sources and becomes unavailable following the study because it is not housed in a public repository. This has created duplication of effort and has made robust debate challenging because a common data source is not used. Many Canadian researchers have to source energy data for Canada from the U.S., our major energy trading partner, from such sources as the Energy Information Agency.

What follows are several recommendations on the future of national energy data in Canada.

First, Canada needs an independent source of publicly available, timely, granular, energy and electricity data overseen and supported by a team with deep expertise across different energy sectors. Energy data is complex. For it to be useful and for the cost and time investment to be worthwhile, it needs to be generated by experts who are familiar with the data required and how it will be used.

Second, the type of data that is required includes current and future demand and supply, size and location of generation projects by technology, transmission and distribution infrastructure and capacity, existing and forecast storage capacity, energy and electricity imports and exports, emissions profiles of energy production, hourly and daily generation profiles, and consumption and sales prices broken down by wholesale, commercial, industrial, and residential categories. This list is by no means exhaustive.

● (0950)

Third, the focus should initially be on a narrower set of data. It is more important to collect data that is relevant and trusted than to collect a large amount of data that will be underutilized. Once the value of the data has been tested and demonstrated, the scope should be expanded to meet diverse stakeholder needs.

Fourth, a new organization should be created to collect and manage this data. It should work closely with existing government organizations and ministries such as StatsCan and NRCan. It is critical, however, that this organization be independent from government for the data to be impartial, fully accessible, and timely.

Fifth, the Government of Canada needs to empower such an organization with sufficient authority to obtain the necessary data from a variety of sources. Much of the data in Canada is currently contained within provincial governments, regulators, agencies, and electricity utilities, and historically has not been easy to access.

Sixth, build on best practices. Experts from within Canada and other jurisdictions, for example, the International Energy Agency, the U.S. Energy Information Agency, and the National Renewable Energy Laboratory should be retained in an advisory capacity during the development and operation of this organization to build on best practices and ensure harmonization across jurisdictions to the extent possible.

The cost for such an exercise may seem significant; however, in the context of the anticipated $48 trillion of global investment needed to meet the world's energy needs from now until 2035, such an investment is minor. Furthermore, the data generated by such an organization would be used widely, not just by energy modellers, but by industry, academics, NGOs, and governments in Canada and abroad.

Given the threat of climate change, DSF believes that Canada has an unparalleled opportunity to pursue decarbonization of our energy systems and economy, given our abundance of renewable energy resources, skilled workforce, and Canadian ingenuity and know-how. To seize this opportunity, a foundation must be built on quality data to advance Canadian energy knowledge and research modelling to show the path forward. Without this data, there is a risk that Canada will make uninformed investment decisions and fall behind in the energy economy that is rapidly evolving and in meeting our Paris climate commitments.

Thank you for your service to our country and for your time to discuss these critical decisions today.

I would be happy to answer any questions.

● (0955)

The Chair: Thank you very much.

Ms. Landry, we're now going to you.

[*Translation*]

Ms. Myriam Landry (Coordinator, Environment and Sustainable Development, Quebec Native Women Inc.): *Kwe.* I would first like to thank the various aboriginal nations for allowing us to meet today on their ancestral land.

I represent Quebec Native Women Inc. as a coordinator for the environment and sustainable development.

Quebec Native Women Inc. represents Quebec's first nations women, including those living in urban areas. Our members come from Quebec's 11 aboriginal nations and various aboriginal groups from the rest of Canada who are living in Quebec's urban communities. We are members of the Native Women's Association of Canada. We also sit on the Assembly of First Nations Quebec-Labrador, the First Nations Human Resources Development Commission of Quebec, as well as a number of other aboriginal and non-aboriginal commissions and committees.

In pursuit of its mission to defend the rights of aboriginal women, Quebec Native Women Inc. has been engaged for a number of years in issues related to the protection of the environment and resources. Our organization outlines aboriginal women's specific concerns and perspectives with regard to their access to land and its resources, as well as the protection of their traditional knowledge.

In collaboration with the Hutchins Legal law firm, in March 2017, Quebec Native Women Inc. submitted to the National Energy Board Modernization Expert Panel a brief whose goal was to raise the expert panel's awareness of the realities experienced by aboriginal women as an "intersectional" group. The idea was specifically to raise their awareness of the implications and specific risks all major projects regulated by the board may have for those women.

I am here today to remind the expert panel that aboriginal women are suffering specific and disproportionate consequences of major energy development projects. Those projects are affecting their land and resources permanently and contributing to climate change, to which aboriginal women and communities are more vulnerable than the rest of the population. The fact that aboriginal women are the ones who benefit the least from the economic impact of those projects within their communities makes this reality even more worrisome.

Currently, the National Energy Board's regulations, policies and guidance notes contain no requirement in terms of the assessment and consideration of aboriginal women's concerns or the specific and disproportionate impact those projects have on them.

Although, since 2011, at the request of the Native Women's Association of Canada and Pauktuutit, the Inuit women's association of Canada, the option to carry out a gender-based analysis in consultation with aboriginal communities has been included in the guidelines for federal officials to fulfill the duty to consult, neither the National Energy Board Act, the Canadian Environmental Assessment Act or their implementation policies make that an obligation.

In 2014 and 2015, Quebec Native Women Inc. also participated in a series of conferences held in Ottawa and Vancouver as part of an international symposium entitled "Gendered Impacts: Indigenous Women and Resource Extraction". At that event, people pointed out a worrisome lack of specific data on the particular impact of land and resource development on aboriginal women. However, those projects' specific and disproportionate repercussions on aboriginal people and women and the resulting climate change are increasingly recognized in Canada and around the world.

The consultation policies currently applied by Canada in regulatory and environmental processes, including those carried out by the National Energy Board, leave no room for the voice of aboriginal women and do not require a fair representation of their interests. This situation is related to a double under-representation of aboriginal women and a virtual lack of consideration for their concerns, the risks they are exposed to and their specific interests within aboriginal governmental structures at the community, regional and national levels. The situation is the same in the consultation processes carried out by the federal government or its delegated officers. As a result, inequalities and discrimination against women are created and perpetuated.

That double under-representation is reflected in the environmental and socioeconomic impact studies, environmental assessments and the required follow-up measures for regulatory processes, especially in preliminary negotiations and the text of agreements signed with promoters and governments. No special attention is paid to aboriginal women in those documents, or to their concerns, rights or interests.

We argue that the modernization of regulatory and environmental processes requires the full participation of women in the decisions related to land and its resources and that their interests should be taken into account properly. As a result, the voice of aboriginal women must come through clearly in the national data on energy.

● (1600)

Regardless of the process used and the entity in charge of reviewing the assessments of environmental or socioeconomic impacts on aboriginal communities, appropriate mechanisms must be implemented to ensure the assessment and the taking into consideration of the specific repercussions of development projects on aboriginal women.

For example, Canada must, in collaboration with aboriginal women, adapt the current gender-based analysis model to aboriginal realities in order to be able to use it as an analysis tool to assess the impact of major development projects regulated by the National Energy Board. In order to ensure that aboriginal women's perspectives are really taken into account, that tool must make the active participation of aboriginal women or organizations that represent their interests mandatory in the assessment of projects' environmental and socioeconomic repercussions.

To that effect, the federal government must provide aboriginal women and organizations that represent them with the resources and capacities they need to carry out appropriate studies on environmental impacts and fully participate in the environmental assessment process.

In addition, environmental assessments must take into account the unique perspective of aboriginal women that stems from their special relationship with the land, their traditional knowledge and their role in the transfer of that knowledge to future generations. The exclusion of aboriginal women from the public arena, such as courts or studies on traditional land use, has rendered their traditional knowledge invisible. Therefore, concrete and specific measures must be implemented to encourage their participation in the environmental assessments of large-scale development projects, in order to address the lack of national data on energy.

Those are the main recommendations of the brief presented to the expert panel related to issues we are discussing today.

The government must implement, in collaboration with organizations representing aboriginal women, such as Quebec Native Women Inc., specific mechanisms to ensure the full participation of aboriginal women throughout the consultation process of aboriginal communities on projects regulated by the National Energy Board, especially regarding the management, design, planning, execution, assessment and monitoring of projects.

The government must provide organizations representing aboriginal women with adequate and realistic resources and funding to address the concerns and specific interests of aboriginal women in the processes currently undertaken by the National Energy Board.

The government must support and fund organizations representing aboriginal women as they carry out in-depth studies to document and analyze specific repercussions of projects regulated by the National Energy Board on aboriginal women, so as to address the lack of analytical and statistical data in that area.

We recommend that the government require the integration of a gender-based analysis adapted to aboriginal realities in the assessments of environmental and socioeconomic impacts undertaken with regard to projects regulated by the National Energy Board. To that effect, the gender-based analysis method already used by the federal government could be adapted and used as a tool for assessing the specific repercussions of those projects on aboriginal women.

In light of the concerns and recommendations Quebec Native Women Inc. is outlining in this brief, we can say that access to national data on energy provides many benefits for community, provincial and national aboriginal organizations, as it makes it easier for us to gather documentation and get informed when decisions that concern us are being made.

However, as it has been shown, there is a major lack of data on energy concerning specifically the country's aboriginal women. It is worrisome that decisions are being made based on current data on energy, when we know that aboriginal women are the ones who benefit the least from the economic impact of those projects and that they will face the most direct negative impacts.

By addressing that lack of data on energy, the government would enable organizations representing aboriginal women such as Quebec Native Women Inc., aboriginal communities, researchers and officials to make more informed and fair decisions, so that the rights and interests of aboriginal women would finally be taken into account better.

Kchi wliwni. Thank you.

[*English*]

The Chair: Thank you very much.

Mr. Harvey, you're going to start us off.

Mr. T.J. Harvey (Tobique—Mactaquac, Lib.): Thank you, Mr. Chair.

I'd like to thank both of our witnesses for being here this morning.

I'm going to start with Ms. Lightburn.

I was particularly intrigued by page 3 of your comments. Actually, I was pleasantly surprised by your comments on page 3, because I think they reflect a lot of what we've heard during this study, which is the need for an independent agency that's separated from StatsCan and removed from government, similar to the U.S. system or the international system, and that allows for appropriate data collection.

I think one thing that was brought up to the committee was the sheer independence of the U.S. system and how they won't necessarily work with states or state governments in the collection of data because of past differences of opinion on that data. They've veered away from that, and they've plotted a course to ensure that the data is relevant and is provided in a timely manner and reflects what the actual data is.

As somebody coming from the field of study that you're in, what do you feel the most appropriate first steps would be in implementing such a strategy?

● (1005)

Ms. Patricia Lightburn: I do think the creation of an independent organization is important. It's also important that it be led by the right experts. I think the first step would be to identify a number of people who would lead this organization who have deep expertise in energy data, whether it's from a combination of the electricity sector or oil and gas, from across the different energy sectors, to make sure that the data that is collected is relevant. That would be the first step.

The Chair: I'm sorry, but the bells have started ringing.

There's a vote. The bells are ringing.

Ms. Patricia Lightburn: Thank you nonetheless.

The Chair: We can seek unanimous consent to continue for a few minutes.

Mr. Jamie Schmale: How many more minutes? How much longer does T.J. have?

The Chair: About five minutes. Four and a half minutes.

Mr. Jamie Schmale: I'd be willing to cut mine in half and then give you guys a five-minute slot and Richard a five-minute slot. Do we have time for that?

The Chair: Does everybody agree with that?

Mr. T.J. Harvey: I only have one more question, and when I'm done, I'll turn it over to you guys.

Mr. Richard Cannings: I'll take whatever's left.

The Chair: Do you have a question of some sort you want to get on the record?

Mr. Richard Cannings: Nothing....

The Chair: Why don't you ask your last question, and then, Jamie, you go for a couple minutes, and then Richard, you could have a quick question. Then we can get out of here in about five or six minutes.

Do we have unanimous consent on that? Yes? Okay.

Mr. T.J. Harvey: I'm going to ask both of you this question, and it's really simple.

Based on your comments, and based on what I heard here and in your presentation, too, if we create an overarching body that's completely independent from government and that has the appropriate people in place to make concise decisions about energy data on a go-forward basis and that carries the confidence of Canadians, if that data does not always necessarily reflect what your organizations feel is in the best interests, where do you stand with that?

Ms. Patricia Lightburn: I think the advantage of having timely impartial data is that it provides an opportunity for robust discussion and debate, and I think that that's healthy. If we disagree with some of those positions, then we're happy to have those conversations, and we welcome that opportunity.

Mr. T.J. Harvey: Perfect.

[*Translation*]

Ms. Myriam Landry: We definitely want there to be equal representation of aboriginal knowledge regarding the project's impact. Half the aboriginal knowledge or data used to make decisions must absolutely come from Canada's aboriginal women, or else the knowledge of half the aboriginal population will be lost. There simply needs to be fair and equal representation of aboriginal knowledge, so that the committee can make informed decisions.

● (1010)

[*English*]

The Chair: Okay, thanks.

Ms. Stubbs, go ahead for maybe one or two very quick questions.

Mrs. Shannon Stubbs (Lakeland, CPC): Thanks, Mr. Chair.

I'm sure you are both delighted that you are owners of a pipeline today.

I'm interested in the information, Jennifer, that you've reinforced here that at the beginning of the study, Greg Peterson, the director general of agriculture energy environment transportation statistics in Statistics Canada said, "We have identified gaps in the data on renewables." That's been reinforced in previous studies by representatives of Canada's regulatory agency as well as senior officials even in the Department of Environment. Then you said, "Data will allow us to model where renewables can be efficiently added to the grid" and that energy data is "scarce and rarely recent or available in real time." We've heard that previously. Exactly what data is missing on renewables?

Ms. Patricia Lightburn: A lot of the operations data for renewable energy projects is missing, as is a lot of the generation data and consumption data, so where that electricity is needed and how it can get there. I think Canada has relied very successfully for a long time on its hydro capacity, but as we add more variable renewables into the grid, we need more sophisticated granular data to see how that energy can be effectively integrated, and we don't have that right now.

Mrs. Shannon Stubbs: Thank you for explaining that. I'll tell you quickly why that causes me deep concern.

In 2016-17 a percentage of the total amounts of federal grants in Canada in the energy sector, mostly in the form of direct subsidies, was to wind. I know there are wind power projects that have received, for example, exemptions also from the Species at Risk Act in order to be set up. Literally hundreds of billions of tax dollars are flooded into those projects, and I think it is very concerning that these public policy decisions and expenditures are being made when we're receiving repeated and clear confirmation that there is a lack of data on the technology and on these projects. To your point about efficient and valuable expenditures of tax dollars, I think that's very concerning.

That's all. Thank you.

The Chair: I'm going to have to stop you there.

Mr. Cannings, do you have a very quick question you want to get on the record before we go?

Mr. Richard Cannings: I would like to ask Madam Landry a question.

You mentioned the importance of incorporating indigenous knowledge. We're talking about energy data here, and you also mentioned very briefly best practices. Maybe you could tie those together and let us know if there are any best practices out there about incorporating indigenous knowledge into energy data systems.

[*Translation*]

Ms. Myriam Landry: When it comes to women, there have been experiences with including women's committees in consultation processes, but only aboriginal women's committees, so that they could freely express their concerns about the project.

When it comes to aboriginal knowledge specifically related to the environment, there have been a number of collaborations between scientists or universities and aboriginal groups. However, first nations members' knowledge on the ground must also be taken into account. So everything must be considered just as much as the scientists who will come with their test tubes. That knowledge is rooted in the land.

Taking into account the knowledge of first nations members is part of a consideration of aboriginal peoples' traditional knowledge, by working together and in an equal manner with community members who are on the land and those who are in urban areas. Just because an aboriginal is not on their land, it does not mean that they do not have any knowledge of what is happening in their community and their land in terms of the environment.

Those practices exist....

[*English*]

The Chair: I'm going to have to ask you to wrap up because we are running rapidly out of time.

[*Translation*]

Ms. Myriam Landry: Okay.

[*English*]

I hope I answered your questions.

The Chair: Do you want the witness to submit it in writing and we can do it that way?

Mr. Richard Cannings: Sure.

The Chair: Thanks, very much.

The meeting is adjourned.

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